

## Four Seasons Senior Living Facility (Baby Shower) Outbreak Report

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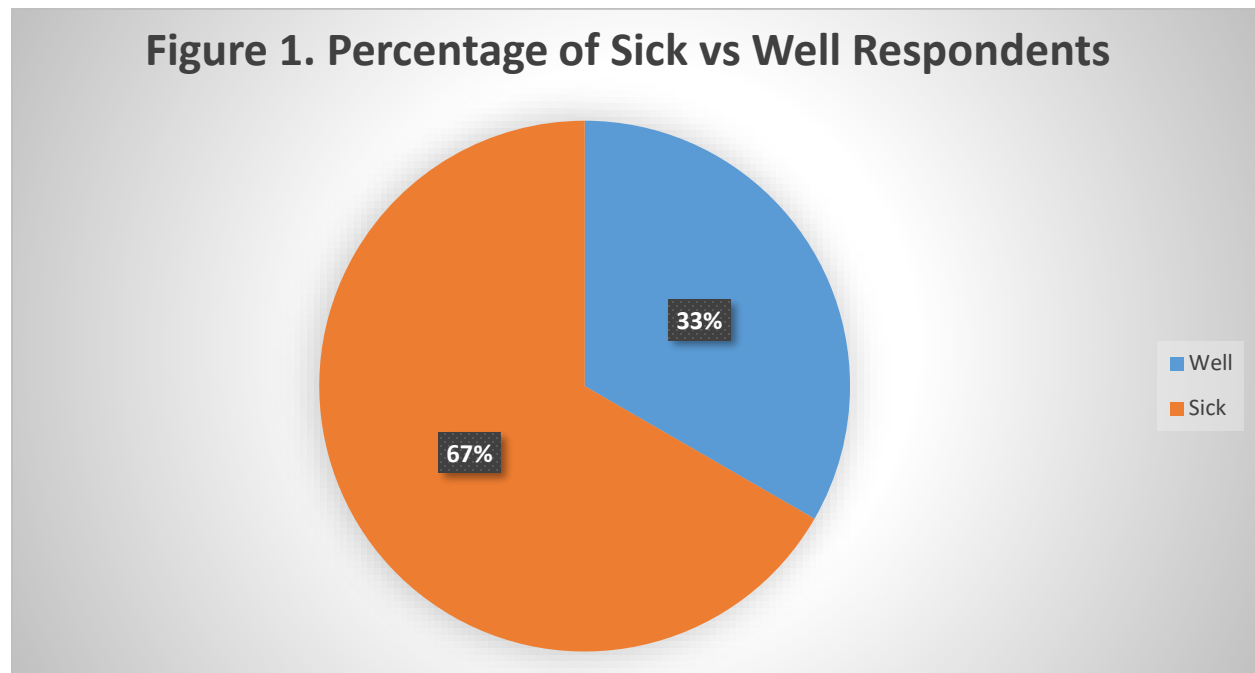
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## EVENT INFORMATION

A baby shower was held in the ballroom of the Four Seasons Senior Living Facility in Beaumont, California on January 6, 2019. According to a report on January 9, 2019 from the Riverside County Department of Environmental Health (Hemet Office), 33 people of a total 72 attendees became sick.

## DATA COLLECTION

We collected demographic and symptomatic information and identified foods consumed from a total of 27 attendees at the baby shower. Of these 27 respondents, 9 were well and 18 became sick (Figure 1).



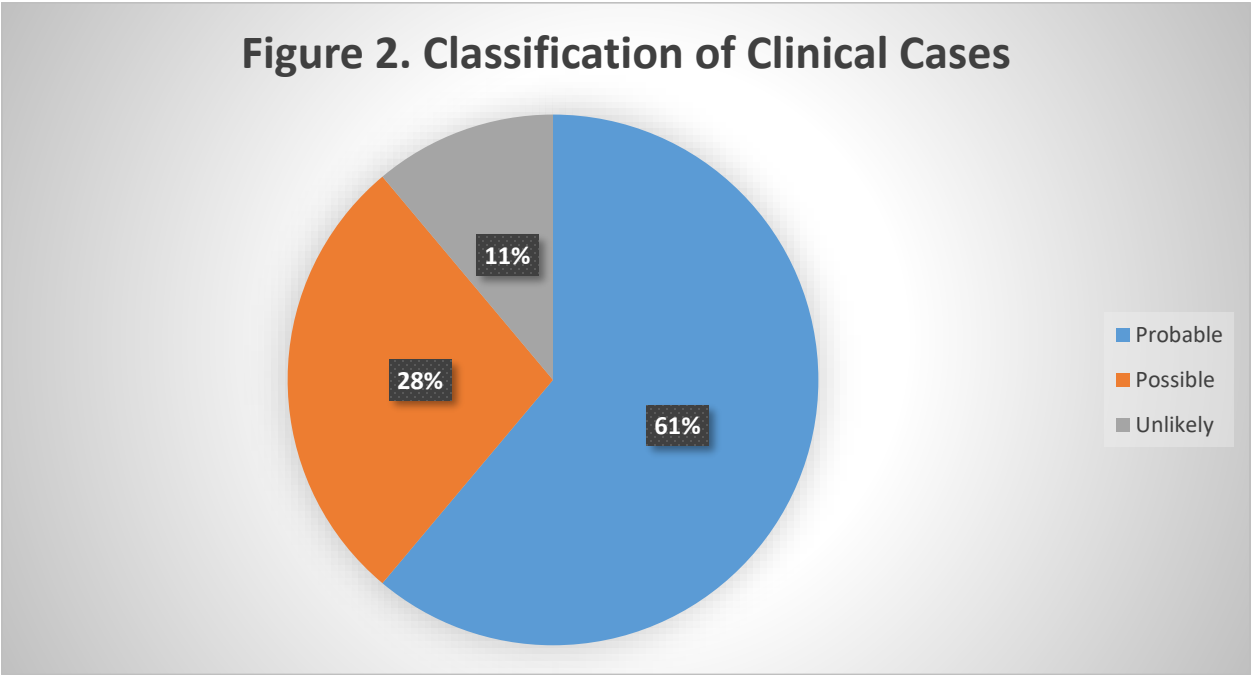
## CASE DEFINITION, ONSET OF ILLNESS, AND DURATION OF ILLNESS

A *probable clinical case* was defined as the onset of nausea AND diarrhea within 51 hours of consuming food served at the baby shower held at the Four Seasons Senior Living Facility in Beaumont, California on January 6, 2019.

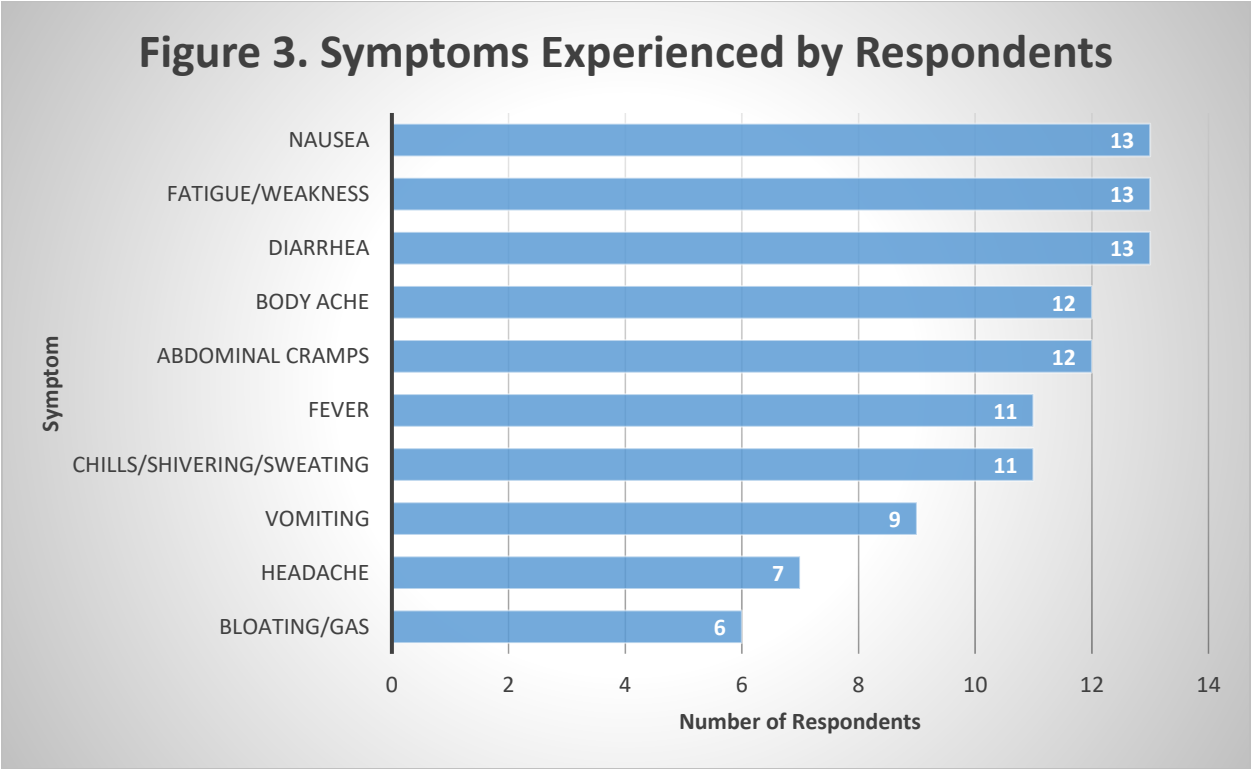
A *possible clinical case* was defined as the acute onset of nausea OR vomiting OR diarrhea OR body aches OR fatigue/weakness OR fever OR abdominal cramps OR chills/shivering/sweating within 51 hours of consuming food served at the baby shower held at the Four Seasons Senior Living Facility in Beaumont, California on January 6, 2019.

*Unlikely clinical cases* were defined as respondents having only bloating/gas within 51 hours of consuming food served at the baby shower held at the Four Seasons Senior Living Facility in Beaumont, California on January 6, 2019.

There were 11 probable cases, 5 possible cases, and 2 unlikely cases from the 18 attendees who reported becoming ill after the event (Figure 2).



The symptoms experienced by the 18 respondents who became ill are shown (Figure 3). Of note, diarrhea occurred up to 10 times in a 24-hour period in one attendee with a range of 1-10 times in a 24-hour period for all respondents who experienced diarrhea. The maximum temperature documented was 40°C.



The average time from consumption of food at the baby shower to onset of first symptom was 26 hours (min = 5 hours, max = 51 hours or 2.1 days). The average time to resolution of symptoms was 66 hours or 2.75 days (min = 23 hours, max = 151 hours or 6.3 days).

#### ANALYSIS OF FOOD ITEMS SERVED AT THE EVENT

The menu at this event was extensive, consisting of 45 different foods and beverages. Some of the food was prepared by the hosts of the event or their friends, some of the food came from grocery stores, Albertson's Bakery (Banning, Riverside County), Rio Ranch Bakery (Banning, Riverside County), The Fat Greek Restaurant (Yucaipa, San Bernardino County), Portos Bakery (Glendale, LA County), and Loma Linda Market Bakery (Loma Linda, San Bernardino County).

Food samples of black beans, cooked corn, spaghetti au gratin, marshmallow pops, chicken empanadas, guava cheese strudels, fruit, popcorn, and chocolate for the fountain were collected by Environmental Health Services (EHS) on January 9, 2019 (case #C00067885) and submitted to the Riverside County lab for testing as needed. The food was subsequently discarded at the conclusion of this study, none was sent for testing.

There were several food items that were more likely to have been consumed by the sick respondents than the well respondents.

Table 1. Food items associated with respondents (n=27) becoming ill.

Food Item	Food Specific Attack Rate	Relative Risk (95% CI)	Number of Respondents Who Consumed Item (n, (%))	Food Item Obtained From or Prepared By
Punch	69%	1.08 (0.63, 1.83)	13 (48%)	Smart & Final (Banning), prepared by family member of host
Chicken Empanadas	69%	1.08 (0.63, 1.83)	13 (48%)	Portos Bakery
Strawberries	69%	1.08 (0.62, 1.88)	16 (59%)	Food 4 Less (Redlands), handled by host
Pineapple (canned)	70%	1.08 (0.63, 1.85)	10 (37%)	Smart & Final (Redlands), handled by host
Guava Cheese Strudel	71%	1.10 (0.62, 1.94)	7 (26%)	Portos Bakery
Falafel	75%	1.15 (0.61, 2.18)	4 (15%)	The Fat Greek
Vegan Guava Strudel	75%	1.15 (0.61, 2.18)	4 (15%)	Portos Bakery
Pace Picante Salsa	73%	1.16 (0.69, 1.97)	11 (41%)	Smart & Final (Redlands)
Yellow Cake	73%	1.16 (0.69, 1.97)	11 (41%)	Loma Linda Market Bakery
Chocolate Fountain	73%	1.16 (0.69, 1.97)	11 (41%)	Unopened packages of chocolate & fountain itself donated by friend of host
Popcorn	75%	1.19 (0.70, 2.01)	8 (30%)	Dollar Tree (Yucaipa) & 99 Cent Store (Hemet), handled by host
Feta Spinach Pie	75%	1.25 (0.74, 2.12)	12 (44%)	Portos Bakery
Ground Coffee	80%	1.26 (0.73, 2.16)	5 (19%)	Prepackaged Starbucks coffee prepared by facility front desk attendant with hot water from on-site Smitty's Bistro
Sugar Free Lemon Cupcakes	80%	1.26 (0.73, 2.16)	5 (19%)	Prepared by host
Grape Leaves	83%	1.35 (0.82, 2.20)	6 (22%)	The Fat Greek
Vanilla Cupcakes	86%	1.43 (0.89, 2.28)	7 (26%)	Albertson's Bakery (Banning)
Black Beans (canned)	82%	1.45 (0.87, 2.43)	11 (41%)	Smart & Final (Banning), prepared by host

Food Item	Food Specific Attack Rate	Relative Risk (95% CI)	Number of Respondents Who Consumed Item (n, (%))	Food Item Obtained From or Prepared By
Cantaloupe	88%	1.51 (0.95, 2.40)	8 (30%)	Food 4 Less (Redlands), handled by host
Chocolate Prune Cake	88%	1.51 (0.95, 2.40)	8 (30%)	Loma Linda Market Bakery
Suckers	100%	1.53 (1.16, 2.02)	1 (4%)	Party City
Lemon Cookies	100%	1.53 (1.16, 2.02)	1 (4%)	Prepackaged, unknown what store they were purchased from
Vanilla Cake Pop	100%	1.53 (1.16, 2.02)	1 (4%)	Prepared by friend of hosts
Strawberry Cake Pop	100%	1.56 (1.16, 2.10)	2 (7%)	Prepared by friend of hosts
Watermelon	80%	1.60 (0.86, 2.97)	15 (56%)	Food 4 Less (Redlands), handled by host
Coconut Sprinkle Marshmallow Pop	100%	1.60 (1.17, 2.18)	3 (11%)	Rio Ranch Bakery
Lemongrass Tea (prepackaged tea bags)	100%	1.64 (1.18, 2.28)	4 (15%)	Prepared by host using water from their home
Plain Pink Marshmallow Pop	100%	1.69 (1.20, 2.40)	5 (19%)	Rio Ranch Bakery
Greek Salad	75%	1.75 (0.72, 4.27)	20 (74%)	The Fat Greek
Red Grapes	86%	1.86 (0.99, 3.47)	14 (52%)	Food 4 Less (Redlands), handled by host

There were several items with a food specific attack rate of 100% (suckers, lemon cookies, vanilla cake pops, strawberry cake pops, coconut sprinkle marshmallow pops, lemongrass tea, and plain pink marshmallow pops), but these items were consumed by 5 or fewer respondents and were thus unlikely to have caused the illness observed in the 16 probable/possible cases. The items with the highest food specific attack rates that were consumed by the most respondents were the watermelon (RR 1.60), Greek salad (RR 1.75), and red grapes (RR 1.86); however none of these is statistically significant.

Of note, one attendee who subsequently exhibited symptoms consistent with a possible clinical case (nausea, vomiting, fatigue/weakness, fever) ate only the chicken empanadas (RR 1.08), strawberries (RR 1.08), watermelon (RR 1.60), and red grapes (RR 1.86).

## ENVIRONMENTAL HEALTH SERVICES INVESTIGATIONS AND FINDINGS

The findings were referred to local environmental health agencies to determine any necessary enforcement activity.

San Bernardino County EHS conducted investigations on Loma Linda Market Bakery and Fat Greek Restaurant on January 11, 2019. There was a single EHS violation at Loma Linda Market Bakery but at the conclusion of the investigation, no further action was taken and the complaint was closed. There were 11 violations at Fat Greek Restaurant resulting in a letter "B" grade and possible further action including a re-inspection.

Los Angeles County EHS conducted an investigation on Portos Restaurant/Bakery on January 15, 2019. There were 4 violations resulting in a re-inspection.

Questions regarding the disposition of these investigations should be referred to the relevant environmental health agency. Los Angeles County EHS inspection reports can be found at: <https://ehservices.publichealth.lacounty.gov/ezsearch>. San Bernardino County EHS inspection reports can be found at: <https://www.sbcounty.gov/dph/ehsportal/>.

## POSSIBLE CAUSATIVE ORGANISM

Two of the food preparers were found to have stool samples positive for Norovirus. The clinical features of Norovirus infection are self-limited, mild to moderate disease with symptoms including nausea, vomiting, diarrhea, abdominal pain, myalgia, headache, malaise, and low grade fever. The incubation period is usually 10-50 hours. Symptoms typically last 24-72 hours.

The clinical features experienced by the attendees of the event are consistent, albeit more severe, with features described above. The average incubation period was 26 hours. The average duration of symptoms was 66 hours.

## CONCLUSION

Overall, there was a relatively small number of respondents (n=27 of 72 attendees) and an extensive menu containing 45 food and beverage items, which made analysis of the data challenging. A larger sample size of respondents would have given more robust results. Many foods had an RR > 1.0 and their consumption was associated with illness. The Greek salad (RR 1.75) and red grapes (RR 1.86) were two of highest risk foods and were consumed by 20 (74%) and 14 (52%) respondents, respectively; however these findings are not statistically significant. The small number of symptomatic individuals and the large menu make it difficult to identify a clear foodborne source of the illness. In conclusion, recognizing the limitations of the study, it is possible that Norovirus was introduced into the food from a food preparer and Norovirus seems the most likely explanation of the findings reported, but with the complex symptomatology, multiple potential foods involved and multiple preparers, the Department will not be able to establish an exact source or timeframe.

Contact [bcole@ruhealth.org](mailto:bcole@ruhealth.org) for additional information.